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APPLICATION NO.	FILING	DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/517,681	03/02/2000		David Emil Nelson	DP-300478	5027
7	7590 11/30/2004			EXAMINER	
Vincent A Cichosz				WILLIAMS, JOSEPH L	
Delphi Technologies Inc PO Box 5052			ART UNIT	PAPER NUMBER	
Mail Code: 480-414-420 Troy, MI 48007-5052				2879  DATE MAILED: 11/30/2004	

Please find below and/or attached an Office communication concerning this application or proceeding.

		Application No.	Applicant(s)				
Office Assistant Commencer		09/517,681	NELSON, DAVID EMIL				
	Office Action Summary	Examiner	Art Unit				
		Joseph L. Williams	2879				
	The MAILING DATE of this communication appears on the cover sheet with the correspondence address Period for Reply						
THE - Exte after - If the - If NC - Failu Any	ORTENED STATUTORY PERIOD FOR REPL MAILING DATE OF THIS COMMUNICATION. nsions of time may be available under the provisions of 37 CFR 1.1 SIX (6) MONTHS from the mailing date of this communication. e period for reply specified above is less than thirty (30) days, a repl of period for reply is specified above, the maximum statutory period are to reply within the set or extended period for reply will, by statute reply received by the Office later than three months after the mailing ed patent term adjustment. See 37 CFR 1.704(b).	36(a). In no event, however, may a reply be timely within the statutory minimum of thirty (30) days will apply and will expire SIX (6) MONTHS from a cause the application to become ABANDONE	nely filed s will be considered timely. the mailing date of this communication. D (35 U.S.C. § 133).				
Status	•						
1)⊠	Responsive to communication(s) filed on 09 S	eptember 2004.					
2a) <u></u> ☐	This action is <b>FINAL</b> . 2b)⊠ This	action is non-final.					
3)	☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is						
	closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213.						
Disposit	ion of Claims		·				
4)🖂	Claim(s) 1-41 is/are pending in the application						
	4a) Of the above claim(s) 27-41 is/are withdrawn from consideration.						
5)□	Claim(s) is/are allowed.						
6)⊠	6) Claim(s) 1-4,6-9,11-20 and 22-25 is/are rejected.						
·	Claim(s) 5,10,21 and 26 is/are objected to.						
8)∐.	Claim(s) are subject to restriction and/o	or election requirement.					
Applicati	ion Papers						
9)[	The specification is objected to by the Examine	er.					
10) The drawing(s) filed on is/are: a) accepted or b) objected to by the Examiner.							
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).							
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).							
11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.							
Priority (	under 35 U.S.C. § 119						
-	Acknowledgment is made of a claim for foreign  All b) Some * c) None of:  1. Certified copies of the priority document  2. Certified copies of the priority document  3. Copies of the certified copies of the priority	ts have been received. Is have been received in Applicati	on No				
	application from the International Burea	u (PCT Rule 17.2(a)).					
* See the attached detailed Office action for a list of the certified copies not received.							
•							
Attachmen	ot(s) ce of References Cited (PTO-892)	4) Interview Summary	(PTO 413)				
	ce of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Da	ate				
Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)   Statement(s) (PTO-1449 or PTO/SB/08)   Statement(s) (PTO-1449 or PTO/SB/08)   Statement(s) (PTO-152)   Statement(s) (PTO-152)   Statement(s) (PTO-152)   Statement(s) (PTO-152)   Statement(s) (PTO-1449 or PTO/SB/08)   Statement(s) (PTO-152)   Statement(s) (PTO-15							

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### **DETAILED ACTION**

## Election/Restrictions

1. Claims 27-41 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected group, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 9/9/2004.

## Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

- (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.
- 3. Claims 1-4, 6-9, 11-20, and 22-25 are rejected under 35 U.S.C. 102(e) as being anticipated by Nelson et al. (US 6,638,484 B2), of record by Applicant.

The applied reference has a common inventor with the instant application.

Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

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Regarding claim 1, Nelson ('484) teaches in figures 1 and 3, a non-thermal plasma reactor characterized by: an element prepared from a monolith comprising a plurality of channels separated by substantially planar dielectric barriers and a perimeter boundary wall, said element comprising: a plurality of exhaust channels for passing a flow of gas therethrough; and a plurality of conductive channels connected alternately with first positive and then negative polarity electric field.

Regarding claim 2, Nelson ('484) teaches the monolith is formed by extrusion.

Regarding claim 3, Nelson ('484) teaches the conductive channels form an alternating sequence of polarity separated by said exhaust channels.

Regarding claim 4, Nelson ('484) teaches the multiple exhaust channels are provided between said conductive channels.

Regarding claim 6, Nelson ('484) teaches the monolith comprises a frontal area and a length selected so as to optimize fit, cost, conversion efficiency, or a combination thereof, of said non-thermal plasma reactor.

Regarding claim 7, Nelson ('484) teaches the monolith comprises a frontal area that is sufficiently large to achieve a low backpressure and wherein monolith length is

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adjusted to achieve a desired gas space velocity in accordance with particular engine emissions.

Regarding claim 8, Nelson ('484) teaches the conductive channels comprise conductive material disposed upon selected areas of selected channel walls.

Regarding claim 9, Nelson ('484) teaches the conductive media is intimately disposed against interior walls of said conductive channels so as to enhance electron injection into said monolith.

Regarding claim 11, Nelson ('484) teaches the conductive channels are connected using internal conducting paths to a common bus path for each polarity.

Regarding claim 12, Nelson ('484) teaches the monolith further comprises integral structural support ligaments.

Regarding claim 13, Nelson ('484) teaches the structural support ligaments within said conductive channels are coated with conductive media.

Regarding claim 14, Nelson ('484) teaches the monolith further comprises structural support ligaments and wherein a portion of said structural support ligaments are removed at one or both ends of said monolith.

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Regarding claim 15, Nelson ('484) teaches the reactor is coated with an insulating encapsulent.

Regarding claim 16, Nelson ('484) teaches a matt support exterior to said monolith.

Regarding claim 17, Nelson ('484) teaches the matt comprises an intumescent insulating matt.

Regarding claim 18, Nelson ('484) teaches an insulating seal provided over wire terminations to prevent voltage leaks.

Regarding claim 19, Nelson ('484) teaches a reactor housing for housing said element.

Regarding claim 20, Nelson ('484) teaches a wire system for connecting said element to a power source.

Regarding claim 22, Nelson (484) teaches the end portions of said conductive channels are uncoated.

Regarding claim 23, Nelson ('484) teaches the conductive media is disposed in a staggered coating pattern so that alternating end portions of conductive channels remain uncoated.

Regarding claim 24, Nelson ('484) teaches the monolith comprises a ceramic monolith having narrow conductive channels at individual parallel step levels.

Regarding claim 25, Nelson ('484) teaches the monolith comprises a co-extruded ceramic-metal foil monolith.

## Allowable Subject Matter

4. Claims 5, 10, 21, and 26 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

## **Contact Information**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph L. Williams whose telephone number is (571) 272-2465. The examiner can normally be reached on M-F (6:30 AM-3:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (571) 272-2457. The fax phone

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number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Joseph L. Williams Primary Examiner Art Unit 2879